We care with Comfortable Technology

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ComfTech srl
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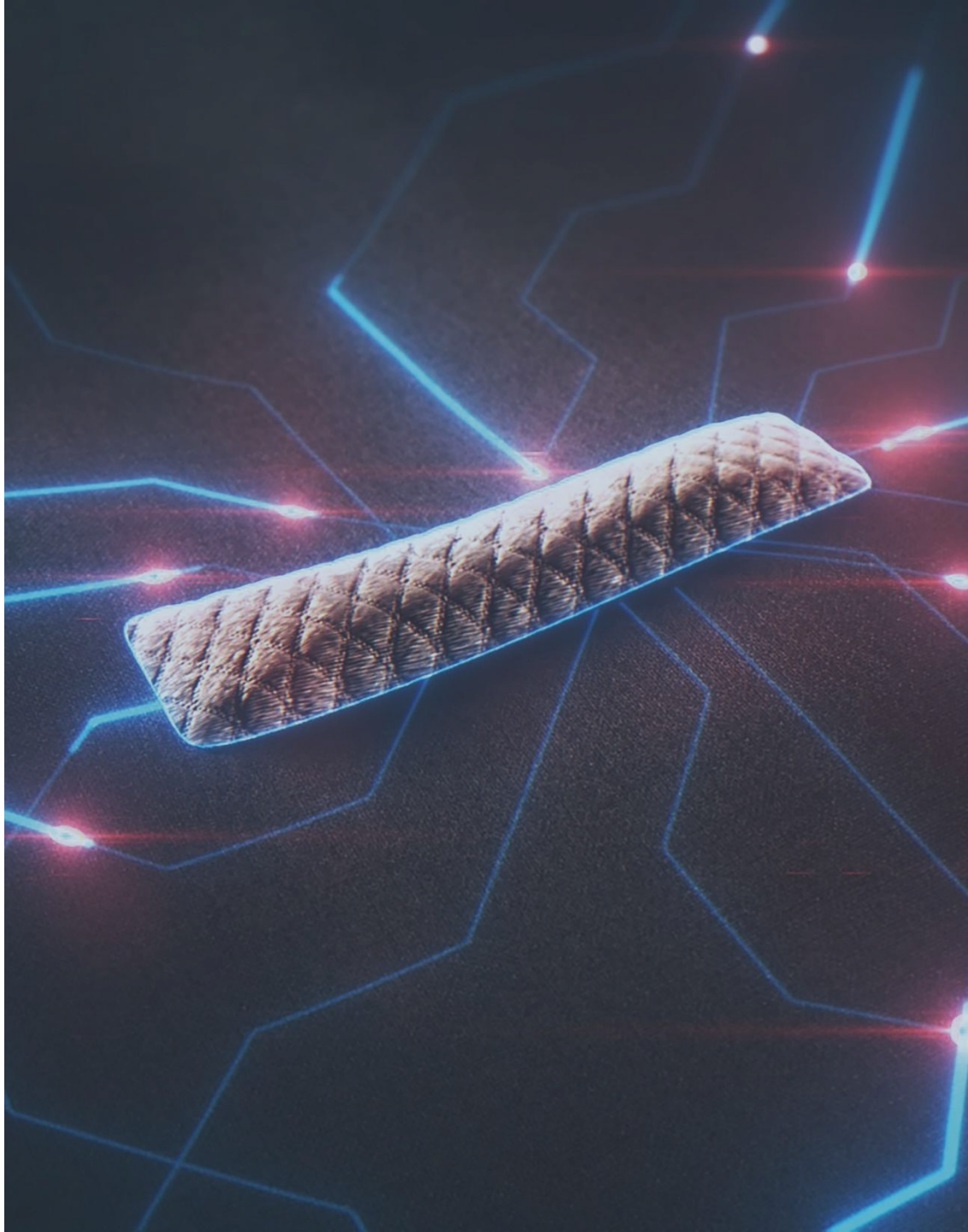
ComfTech

ComfTech is an Italian company specializing in the design and production of **wearable monitoring systems** based on an innovative **textile sensors** technology fully integrated into smart garments, classified as **medical devices**.
These systems allow to **collect unique health data** from patients in a comfortable way.

- ComfTech is a **Benefit Corporation**
- Our products are **designed** and **manufactured in Italy**
- ComfTech has obtained CE certification according to the **MDR regulation**.
  Our products are **class IIb and class I medical devices**



Our vision

Enabling **anyone**, **anywhere**, at **any time** to monitor their **vital parameters** for **prevention**, **prediction** and **treatment support** purposes.

Our mission

Offering systems that **integrate unobtrusively** into **people's daily lives,** for continuous, non-invasive **monitoring of vital parameters**.

From newborns to the elderly

Our company was founded as a project to **improve the quality of life of premature babies** in neonatal intensive care.
Today, our products have a **wide range of applications** and are designed **for all ages**.

We have developed **algorithms optimized** to adapt to **different age groups** and cover **different areas**:

HOWDY
baby

- **Neonatology**
- **Pediatrics**

HOWDY
senior

- **Monitoring in the facility and at home**
- **Physical rehabilitation**
- **Respiratory rehabilitation**
- **Athletic training**

The advantages of sensorized clothing

Patented Intellectual Property

ComfTech textile sensors are patented, safe, and efficient:

- **HIGH SIGNAL QUALITY**
- **SOFT AND FLEXIBLE**
- **HYPOALLERGENIC**
- **COMFORTABLE**

- They do not hinder movement and do **not interfere** with activities.
- The sensors **do not need to be placed** on the body, as they are integrated into the garment.
- **They reduce the perception of medical devices**
- They enable **continuous, non-invasive monitoring.**
- They feature **tested** textile sensors and circuits.

HOWDY
senior

Wearable monitoring system for adults

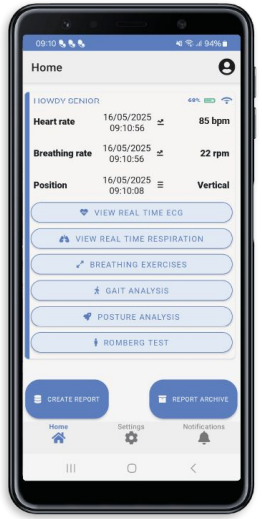
Daily monitoring
Physical rehabilitation
Breathing exercises

Comf Tech

HOWDY
senior

Howdy Senior is a wearable monitoring device for adults that **continuously and non-invasively detects cardiac, respiratory and motor parameters.**

Howdy Senior is a **safe and comfortable** product that allows monitoring without interfering with normal daily activities.



Device + App:
Class IIb medical device

Textile unit:
Class I medical device

CARDIAC PARAMETERS

- Heart Rate
- Real-time ECG trace
- HRV analysis

RESPIRATORY PARAMETERS

- Breathing Rate
- Respiratory trace
- Biofeedback breathing exercises

MOTION PARAMETERS

- Body position
- Gait analysis
- Postural analysis
  Romberg test

INTEGRATED PARAMETERS

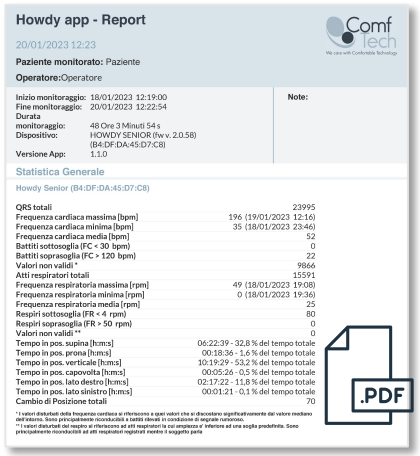
- Oxygen saturation
- Body temperature

App Howdy

FEATURES

- **Real-time parameters** display
- Monitoring **report** generation
- Data sent to **WebApp** for data consultation, both on the patient side and on the operator side
- Data sent to **Central Monitor**

App



Report

Webapp

App Howdy + Rehab

TEST

Gait analysis includes:

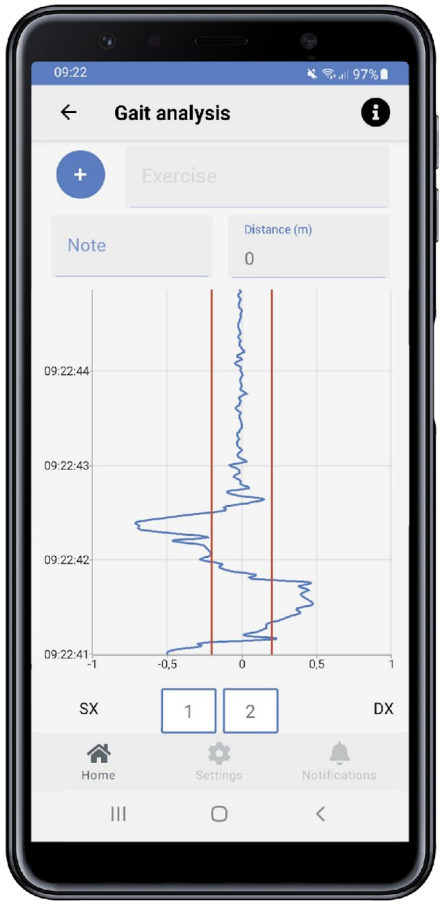
- 10-meter walk test (10MWT)
- 6-minute walk test (6MWT)
- Free walking test
- Timed Up and Go test (TUG)

Postural analysis includes:

- Bipedal test
- Right leg monopodal test
- Left leg monopodal test

Romberg test

The data is sent to the WebApp for consultation, both on the patient side and on the operator side.



Gait analysis

Postural analysis

Romberg Test

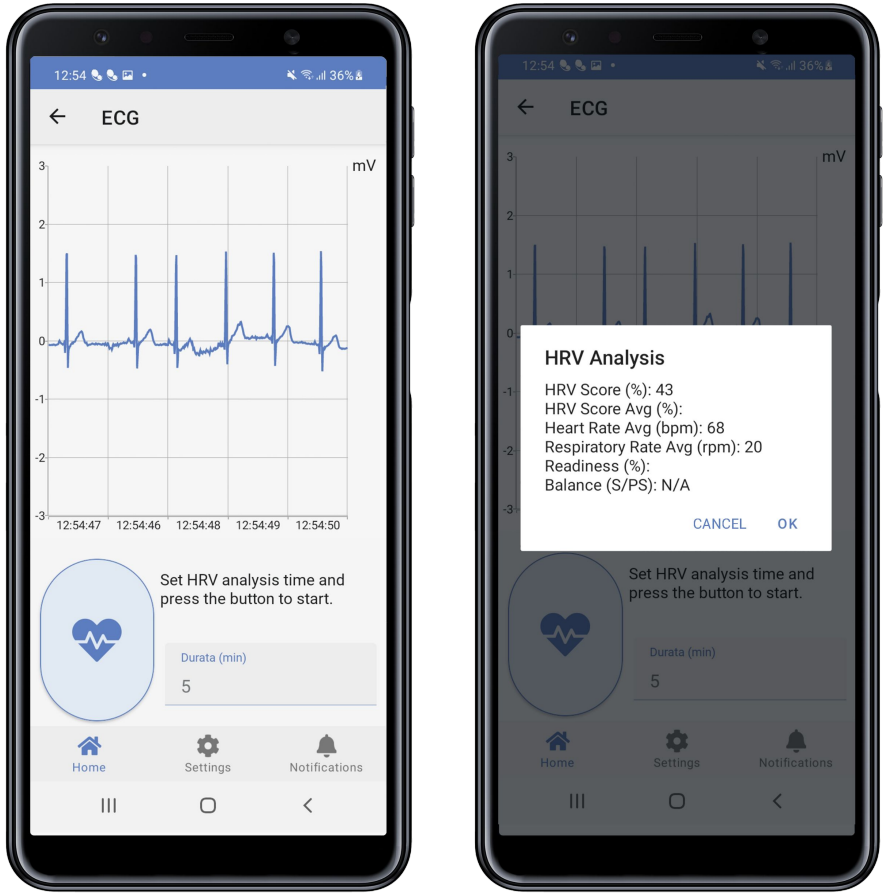
App Howdy + HRV

HRV ON DEMAND

Calculated at the user's request, displayed in the App and WebApp

- **HRV Score**
- **Average HRV Score for the previous 10 days**
- **Average heart rate**
- **Average respiratory rate**
- **Readiness Index** indicates readiness for a new training activity
- **Balance** indicates a state of stress or recovery, based on the prevalence of the sympathetic or parasympathetic nervous system compared to previous days

The average HRV Score, Readiness Index, and Balance are calculated if there are at least 4 HRV Score measurements in the previous 10 days.



App Howdy + HRV

HRV CONTINUOUS

- **HRV Score**
- **Stress Index** to assess stress caused by internal and external factors
- **HF band power** indicator of parasympathetic nervous system activation/deactivation

NIGHT HRV

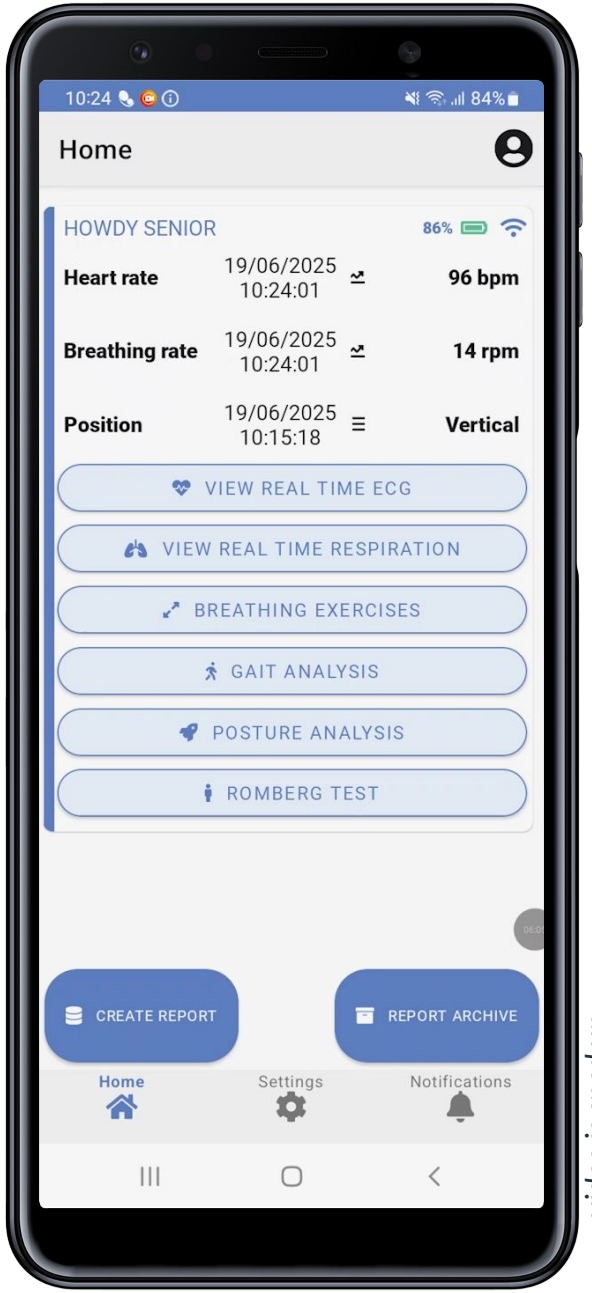
- **Nighttime HF power average** indicator of parasympathetic nervous system activation/deactivation during the night

Calculated automatically every 15 minutes, displayed in WebApp

App Howdy + Breathing exercises

BREATHING EXERCISES WITH BIOFEEDBACK

- Exercise sessions set up by the therapist
- Option for patients to perform them independently
- Session report generation

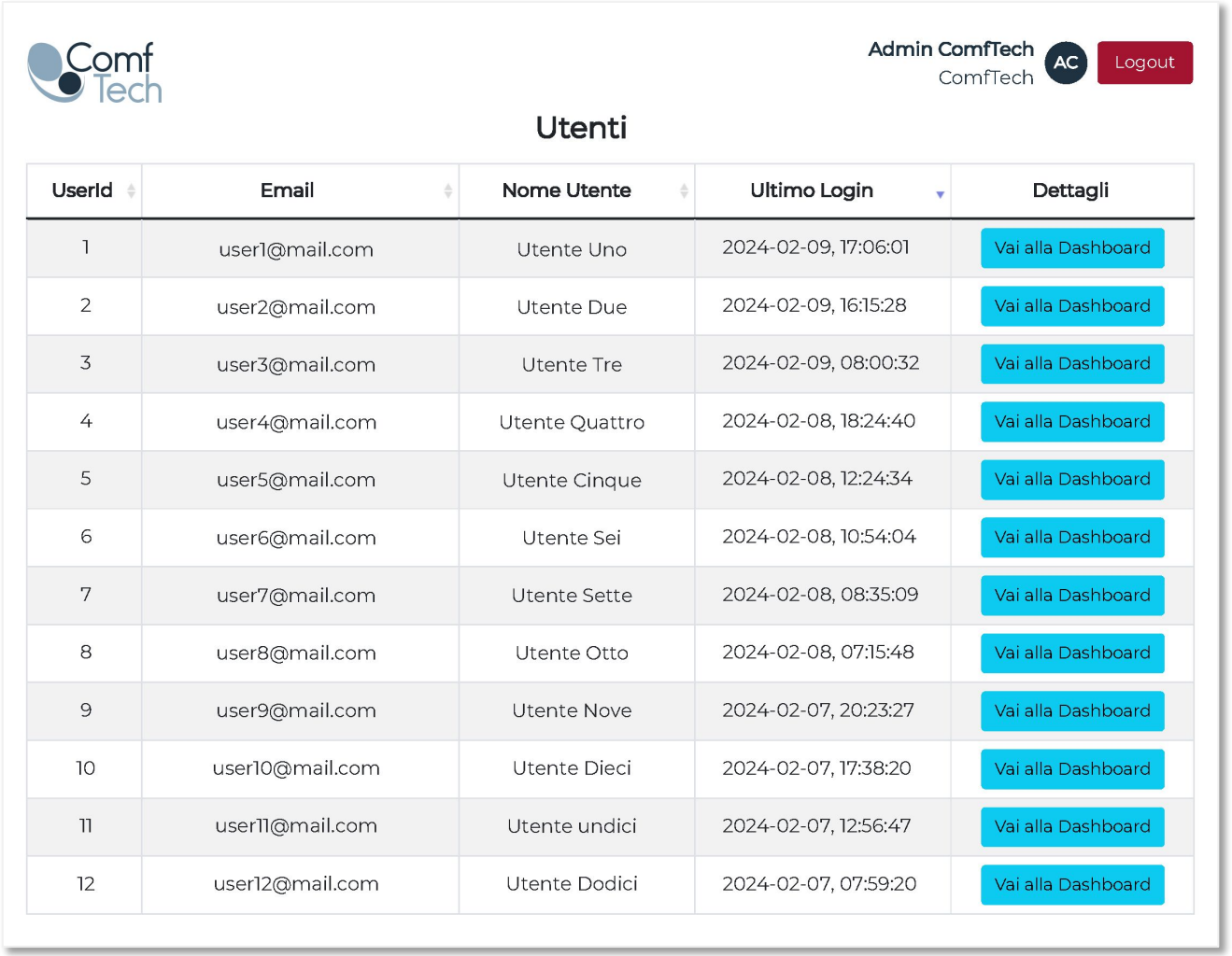


video is sped up

Web App

Access to WebApp, with Admin account, for consultation and data download.

- **Users sorted by ID**
- Heart rate, respiratory rate, movement index, steps taken by each user
- ECG and tachogram for each user
- Respiratory signal
- Accelerations
- Cardiac variability indices
- Rehabilitation section



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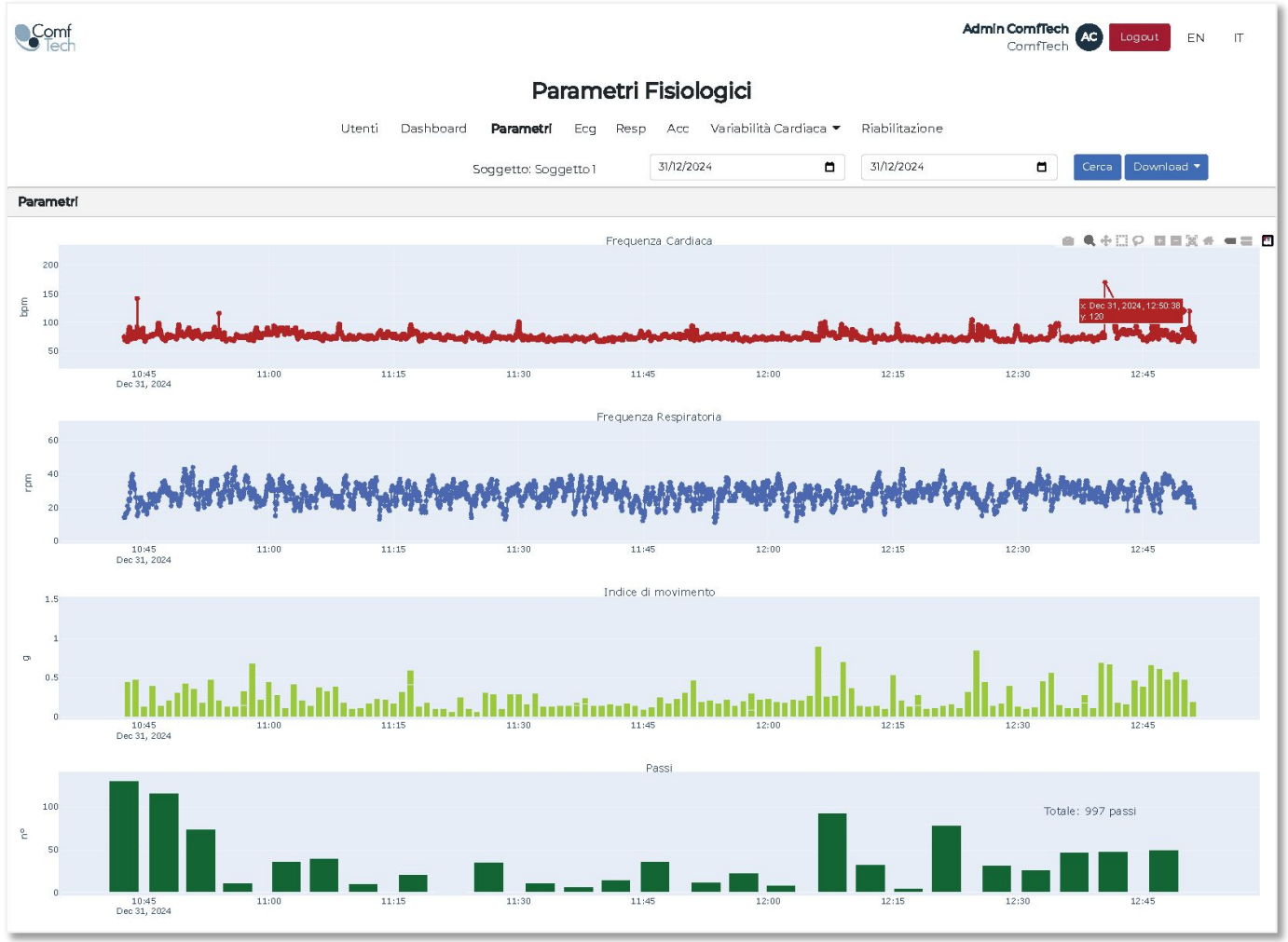

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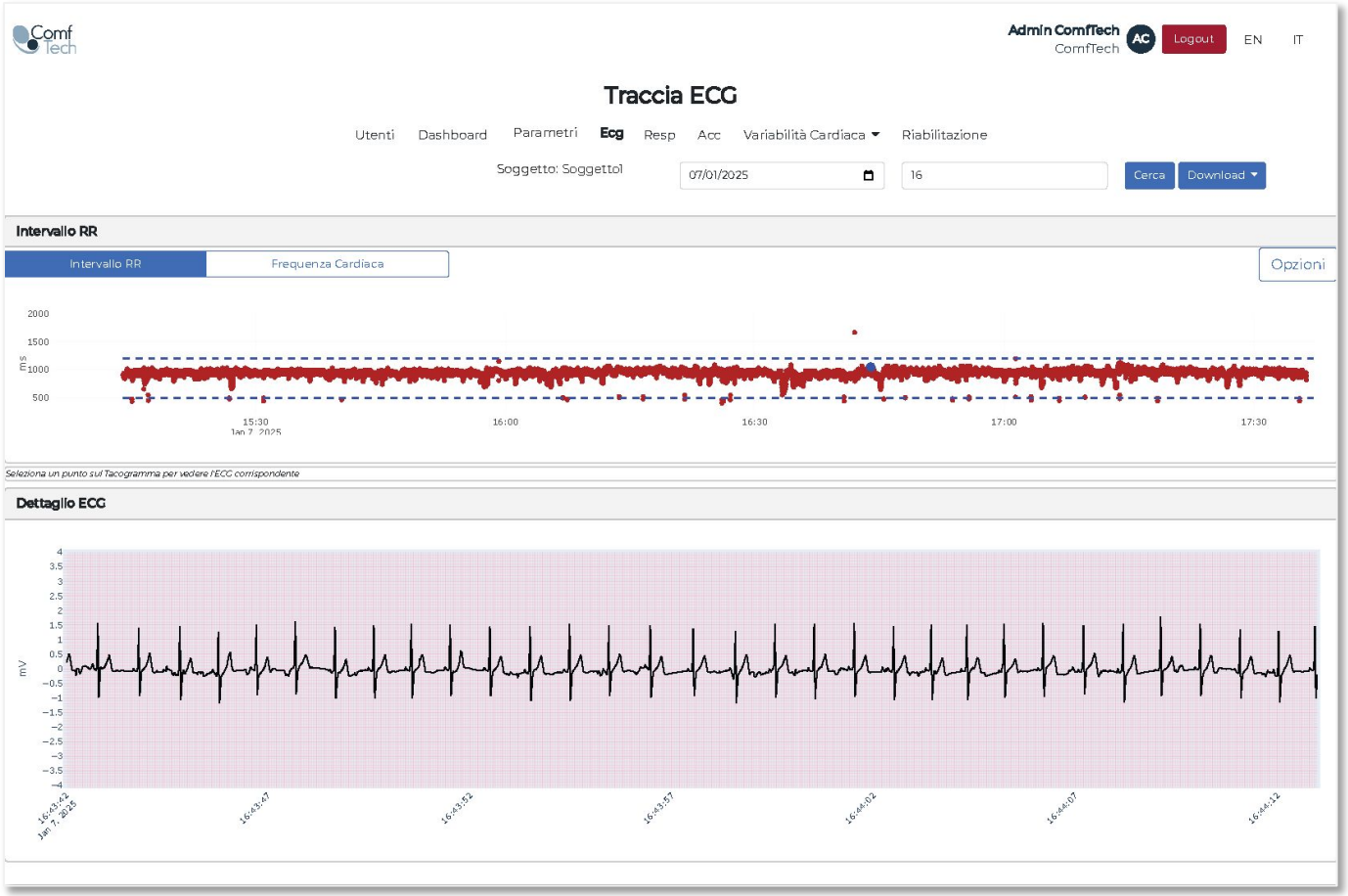

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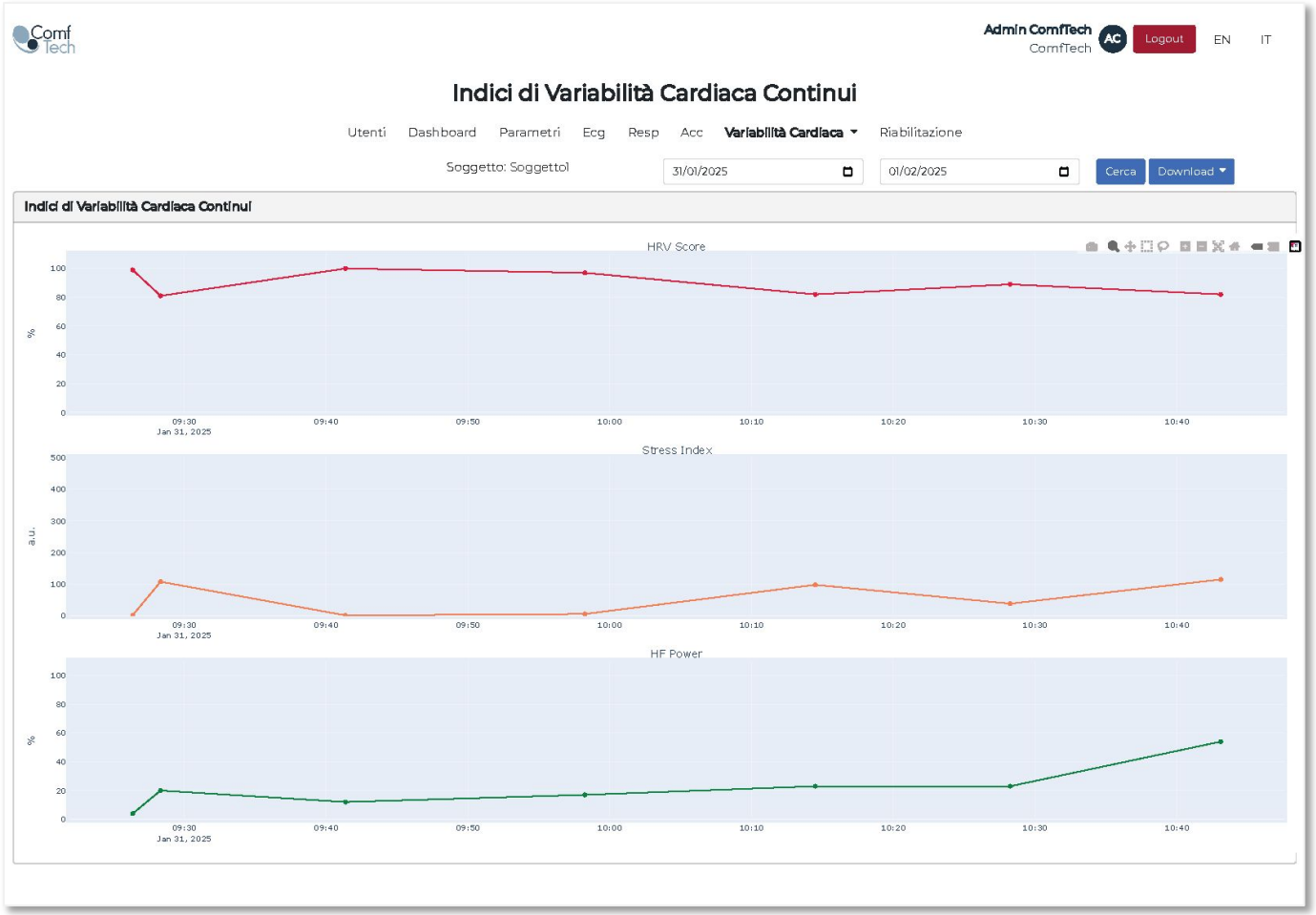

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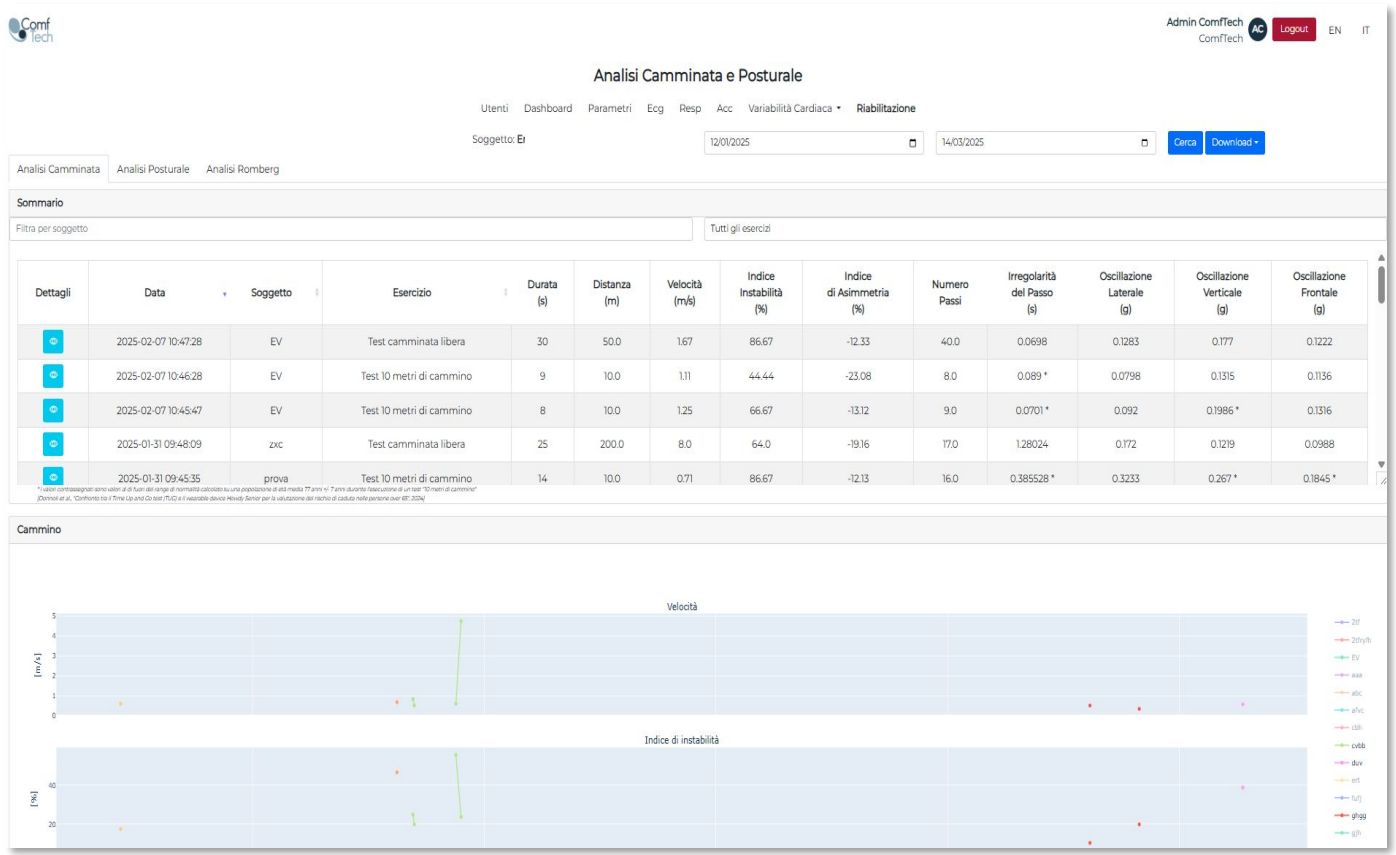
- Respiratory signal
- Accelerations
- Cardiac variability indices
- **Rehabilitation section** divided into Gait Analysis, Postural Analysis, and Romberg Analysis, it reports the details of the tests performed in the app.



Rehabilitation Index description

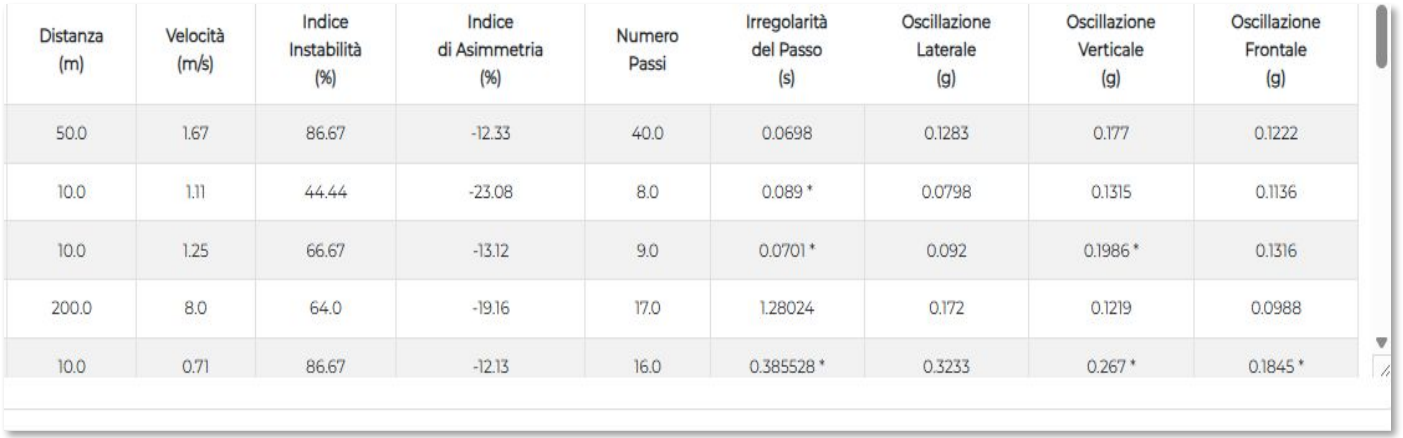
Asymmetry index (%)
Lateral imbalance while walking: a value of 0 indicates perfect symmetry, 100 indicates complete tilt to the right, and -100 to the left

Lateral oscillation (g)
Standard deviation of mid-lateral acceleration; the higher the value, the greater the oscillation

Vertical oscillation (g)
Standard deviation of vertical acceleration; the higher the value, the greater the oscillation

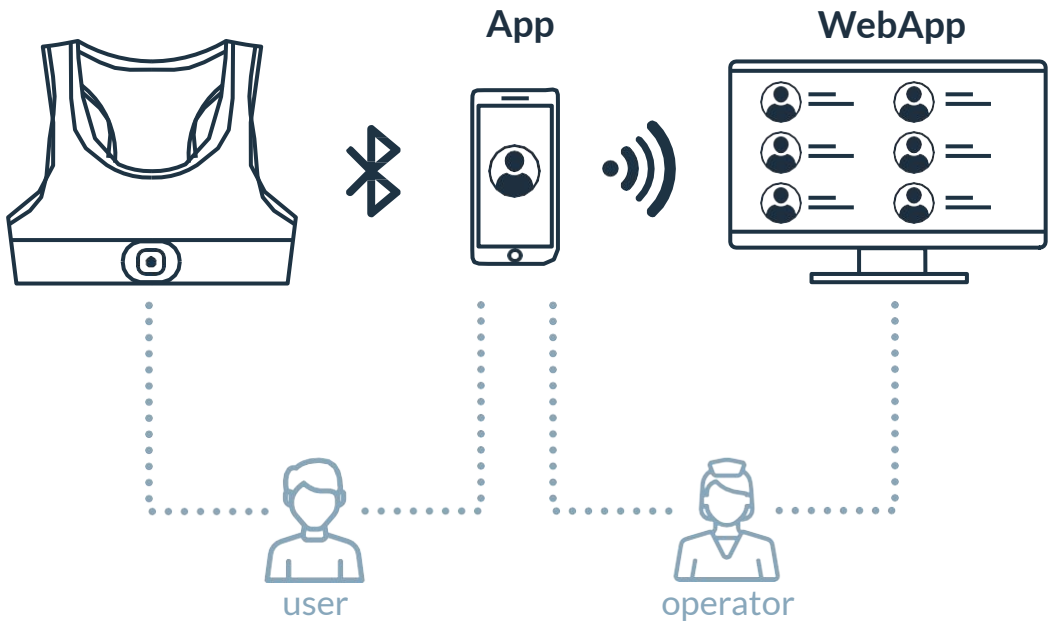
Frontal oscillation (g)
Standard deviation of anterior-posterior acceleration; the higher the value, the greater the oscillation

Step irregularity (s)
Standard deviation of the time between one step and the next: the higher this indicator, the more irregular the step rhythm during exercise



Distanza (m)	Velocità (m/s)	Indice Instabilità (%)	Indice di Asimmetria (%)	Numero Passi	Irregolarità del Passo (s)	Oscillazione Laterale (g)	Oscillazione Verticale (g)	Oscillazione Frontale (g)
50.0	1.67	86.67	-12.33	40.0	0.0698	0.1283	0.177	0.1222
10.0	1.11	44.44	-23.08	8.0	0.089 *	0.0798	0.1315	0.1136
10.0	1.25	66.67	-13.12	9.0	0.0701 *	0.092	0.1986 *	0.1316
200.0	8.0	64.0	-19.16	17.0	1.28024	0.172	0.1219	0.0988
10.0	0.71	86.67	-12.13	16.0	0.385528 *	0.3233	0.267 *	0.1845 *

Data flow



Casi d'uso

- RSA, protected apartments, and nursing homes
- Low- and medium-intensity care wards
- Rehabilitation and telerehabilitation
- Physical activity
- Hematology and transplant center
- Emergency room
- Home monitoring
- Prevention

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